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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: IDENTIFICATION AND CHARACTERIZATION OF AN ANTHOCYANIN MUTANT (*ANT1*) IN TOMATO

(57) Abstract: Flavonoids are obtained from plants that overexpress an *ANT1* gene compared to wild-type plants. The plant may be a transgenic plant that contains a transformation vector that causes the overexpression of *ANT1*. Alternatively, the plant can be selectively bred to have an allele of or mutation in an endogenous *ANT1* gene that causes the overexpression of *ANT1* compared to plants lacking the allele or mutation.

WO 2003/084312 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/10369

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A01H 1/00, 5/00; C12N 15/82, 15/87; C07H 21.04; C12N 5/00, 5/02
US CL : 800/282, 317.3, 317.4; 536.23.1; 435/423, 425

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 800/282, 317.3, 317.4; 536.23.1; 435/423, 425

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
STNA, WEST

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Agricola, Biosis, Caba. CaPlus

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	ALFENITO, et. al. Functional complementation of anthocyanin sequestration in the vacuole of widely divergent glutathione S-transferases. The Plant Cell, July 1998, Vol 10, pages 1135-1149, entire document.	1-9
Y	PROTEGGENTE, et. al. The antioxidant activity of regularly consumed fruit and vegetables reflects their phenolic and vitamin C composition. Free Radical Research, 2002, Vol 36, No. 2, pages 217-233, see Table V, page 226	1-9

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/10369

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claim Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claim Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐
☐

- The additional search fees were accompanied by the applicant's protest.
No protest accompanied the payment of additional search fees.